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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/559,829	12/06/2005	Edwin D Davis	T2191-908028US01	1059

181 7590 07/10/2006

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MCLEAN, VA 22102-3833

EXAMINER

DOUGHERTY, THOMAS M

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 07/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/559,829	Applicant(s) DAVIS, EDWIN D	
	Examiner Thomas M. Dougherty	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-21 is/are allowed.
- 6) ☒ Claim(s) 1,2 and 14-16 is/are rejected.
- 7) ☒ Claim(s) 3-13,17 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>606</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, and 14-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Davis (US 5,780,954). Davis shows (fig. 3) thermionic electric converter (200) comprising: a casing member (202); a cathode (224) wherein said casing member (202) having a cathode emitter (220) operable, when heated, to serve as a source of electrons (202A); a target structure (206) within the casing member (202) comprising an anode (206) operable to receive electrons (202A) emitted from the cathode emitter (206); and a cathode output enhancing device (242) operable to increase an excitation energy of electrons (202A) disposed at said cathode emitter (220).

Said cathode emitter (220) comprises a wire grid (see fig. 4) having wires going in at least two directions that are transverse to each other.

Said anode (206) is a substantially planar plate anode.

The device further comprising an electron interference laser (242) operable to hit electrons (202A) between the cathode (224) and anode (206).

Claims 1, 2 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Davis (US 4,323,808). Davis shows (fig. 1B) thermionic electric converter (10) comprising: a casing member (12); a cathode (19) wherein said casing member (12) having a cathode emitter (20) operable, when heated, to serve as a source of electrons

(22); a target structure (16) within the casing member (12) comprising an anode (16) operable to receive electrons (22) emitted from the cathode emitter (20); and a cathode output enhancing device (170) operable to increase an excitation energy of electrons (22) disposed at said cathode emitter (20).

Said cathode output enhancing device comprises a cathode enhancing laser (170) positioned to direct a laser beam (173) to strike an emissive surface of said cathode emitter (20).

Said cathode emitter (claim 1, paragraph b) comprises a wire grid having wires going in at least two directions (inherent in a grid) that are transverse to each other.

Allowable Subject Matter

Claims 19-21 are allowed.

The following is an examiner's statement of reasons for allowance: the prior art fails to show or fairly suggest in combination with a thermionic electric converter structure including a casing, a cathode with an emitter which is operable when heated to create an electron stream, a target structure which is an anode a cathode enhancing laser positioner.

Claims 3-13, 17 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Claim 3 cites a cathode enhancing laser positioned in the interior of the casing

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which the prior art does not show nor fairly suggest. Claims 4 and 5 depend on claim 3. Claim 17 cites an additional laser which is an electron interference laser which is not shown nor fairly suggested by the prior art. The positioning of the cathode enhancing laser in claim 6 is not shown nor suggested by the prior art. Claims 7-13 depend directly or indirectly on claim 6. The citation of an electret positioned within the casing in claim 18, so that stray electrons can be scavenged is not shown nor suggested by the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

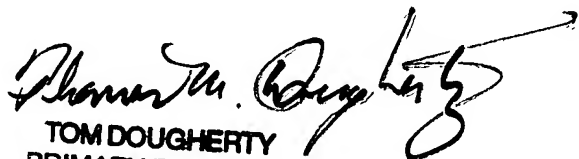
Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Any remaining prior art cited reads on the claimed invention.

Direct inquiry to Examiner Dougherty at (571) 272-2022.

td
tmd

July 3, 2006


TOM DOUGHERTY
PRIMARY EXAMINER